



BIOLOGY NMDCAT

SWIFT TEST

- Q.1** In plant cells, the nucleus is peripheral in position due to the presence of:
a. Cytoplasm
b. Vacuole
c. Golgi apparatus
d. Endoplasmic reticulum
- Q.2** All of the following organelles are absent in bacterial cells except:
a. Mitochondria
b. Endoplasmic reticulum
c. Golgi apparatus
d. Ribosomes
- Q.3** Most accepted model which explain the structure and functions of plasmalemma is:
a. Unit membrane model
b. Protein sandwich model
c. Fluid mosaic model
d. Endosymbiont model
- Q.4** Which of the following substances can cross cell membrane easily?
a. Lipid soluble
b. Water soluble
c. Large molecules
d. Charged particles
- Q.5** Facilitated diffusion is an example of:
a. Active transport
b. Endocytosis
c. Passive form of carrier transport
d. Active form of carrier transport
- Q.6** Which of the following is in direct contact with nuclear membrane?
a. Plasma membrane
b. Rough endoplasmic reticulum
c. Smooth endoplasmic reticulum
d. Golgi apparatus
- Q.7** Which of the following has main role in formation of granules of pancreas before secretion?
a. Rough endoplasmic reticulum
b. Smooth endoplasmic reticulum
c. Golgi complex
d. Mitochondria
- Q.8** They are bounded by single membrane and are simple sacs rich in acid phosphatase and hydrolytic enzymes:
a. Ribosomes
b. Lysosomes
c. Peroxisomes
d. Glyoxisomes
- Q.9** Cells without nucleoli die because they do not possess:
a. Centrioles, and are unable to undergo cell division
b. Lysosomes, and are unable to destroy worn out organelles
c. Mitochondria, and are unable to obtain energy
d. Ribosomes, and are unable to manufacture proteins
- Q.10** A non-dividing animal cell has:
a. 1 centrosome and 1 centriole
b. 2 centrosomes and 2 centrioles
c. 1 centrosome and 2 centrioles
d. 2 centrosomes and 1 centriole
- Q.11** Tay-Sach's disease mostly affects which of the followings organ in human body?
a. Liver
b. Brain
c. Kidneys
d. Muscles
- Q.12** Central fibril area of nucleolus contains large molecular weight:
a. RNA and proteins
b. DNA and proteins
c. RNA and DNA
d. RNA, DNA and proteins
- Q.13** Under which of the following conditions, would you expect to find a cell with a predominance of free ribosomes?
a. A cell that is secreting proteins
b. A cell producing cytoplasmic enzymes
c. A cell that digesting food particles
d. A cell that enlarging its vacuole
- Q.14** An organelle having its own DNA, ribosomes and protein formation indicate that the organelle is:
a. Self-replicating
b. Self-indicating
c. Self twisting
d. Self reproducing
- Q.15** Glycosidic linkage is found in all of the following except:
a. Ribose
b. Sucrose
c. Starch
d. Chitin



- Q.16 All of the following characters are true about polysaccharides except:
a. Complex
b. Can be branched
c. Tasteless
d. Soluble
- Q.17 What is the effect of increasing substrate concentration on the degree of inhibition of an enzyme-controlled reaction?
- | | Competitive inhibition | Non-competitive inhibition |
|----|------------------------|----------------------------|
| a. | Decreased | Increased |
| b. | Decreased | No change |
| c. | Increased | Decreased |
| d. | No change | Increased |
- Q.18 Structurally, glycogen most closely resembles with:
a. Amylose
b. Amylopectin
c. Cellulose
d. Hemicellulose
- Q.19 Myelin sheath of neuron is composed of:
a. Sphingolipids
b. Choline
c. Ethanolamine
d. Waxes
- Q.20 All of the following are components of lecithin except:
a. Glycerol
b. Phosphoric acid
c. Fatty acid
d. Serine
- Q.21 It is involved in the movement of chromosomes during anaphase of cell division:
a. Histone protein
b. Actin protein
c. Tubulin protein
d. Myosin protein
- Q.22 The linkage formed during peptide bond formation is represented by:
a. C-C linkage
b. C-S linkage
c. C-N linkage
d. C-R linkage
- Q.23 In aqueous environment, the most stable tertiary conformation is that in which hydrophobic amino acids are:
a. Absent in polypeptide chain
b. Placed on surface of molecule
c. Buried inside the molecule
d. Neutralized by hydrophilic amino acids
- Q.24 It represent the bond which is associated with the formation of polynucleotide chains:
a. C-O-C link
b. P-O-C link
c. C-O-P-O-C link
d. C-O-N-O-C link
- Q.25 It is a unit of biological inheritance:
a. DNA
b. RNA
c. Chromosome
d. Gene
- Q.26 It is a type of RNA that shows maximum variability in length:
a. mRNA
b. tRNA
c. rRNA
d. rDNA
- Q.27 The number of nitrogen atoms in a cytosine molecule are:
a. 2
b. 3
c. 5
d. 6
- Q.28 The catalytic activity of an enzyme is restricted to a small portion of the structure known as:
a. Binding site
b. Active site
c. Non-active site
d. Allosteric site
- Q.29 NAD^+ is used in biological oxidation-reduction reactions and is an example of:
a. Enzyme
b. Coenzyme
c. Activator
d. Prosthetic group
- Q.30 A student of chemical engineering mistakenly engulfed the toxic compound 'A' which was a potent inhibitor of certain enzyme. He was immediately brought to hospital where Dr. injected intravenously substrate 'B' to minimize the toxic effect of compound 'A'. His life was saved from serious damages. The treatment method shows that compound 'A' was _____ inhibitors.
a. Temperature sensitive
b. Competitive reversible
c. Irreversible
d. Non-competitive reversible
- Q.31 E. Fischer proposed a lock and key model to visualize substrate and enzyme interaction. According to this model, key is:
a. Substrate
b. Enzyme



- c. Product
- Q.32 A slight change in pH can change enzyme activity due to:
a. Destruction of globular structure
b. Ionization of amino acids
c. Denaturation of enzyme
d. Vibrations of atoms of substrate
- Q.33 All eukaryotes that did not fit the definition of plants, fungi or animals were included in kingdom:
a. Protista
b. Prokaryote
c. Monera
d. Animalia
- Q.34 Capsomeres are made up of:
a. Nucleic acids
b. Fatty acids
c. Carbohydrates
d. Amino acids
- Q.35 A character that is associated only with retroviruses is:
a. RNA genome
b. Spherical capsid
c. Reverse transcriptase
d. Envelop spikes
- Q.36 Gram negative bacteria are stained pink as they retain:
a. Primary dye
b. Secondary dye
c. Tertiary dye
d. Quaternary dye
- Q.37 Which of the following part of HIV is glycoprotein in nature?
a. Genome
b. Capsid
c. Envelope
d. Envelope spike
- Q.38 Bacteria bearing flagella all over the body are called:
a. Peritrichous
b. Atrichous
c. Monotrichous
d. Cephalotrichous
- Q.39 In bacteria, DNA is:
a. Enclosed in nucleus
b. Scattered
c. Double stranded and ringed
d. Associated with histones
- Q.40 All the animals placed in grade radiata are:
a. Diploblastic
b. Triploblastic
c. Acoelomate
d. Coelomate
- Q.41 Coelom is absent in:
a. Porifera
b. Coelenterata
c. Platyhelminthes
d. All A, B, C
- Q.42 All of the following diseases can spread through insects except:
a. Malaria
b. Dengue
c. Hepatitis
d. AIDS
- Q.43 All of the following insects are useful except:
a. Silk worm
b. Honey bee
c. Locust
d. Butterfly
- Q.44 Special kind of genetic recombination called parasexuality is actually exchange of genetic material between:
a. Two nuclei of different hyphae
b. Two hyphae of different organisms
c. Two nuclei of same hyphae
d. Two nuclei of different species
- Q.45 Fats that recombine in epithelial cells of villi are transported through:
a. Hepatic vein
b. Hepatic portal vein
c. Lymph vessels
d. Blood capillaries
- Q.46 Movement of water through plasmodesmata is called:
a. Apoplast pathway
b. Symplast pathway
c. Transmembrane pathway
d. Osmosis
- Q.47 The cohesive force of water is due to:
a. S-bonds
b. O-bonds
c. H-bonds
d. OH-bonds
- Q.48 During inspiration, diaphragm moves:
a. Upward
b. Downward
c. Forward
d. Backward
- Q.49 Small amount of carbon dioxide is carried by corpuscles combined with:
a. Na^+
b. Ca^{+2}
c. K^+
d. Cl^-

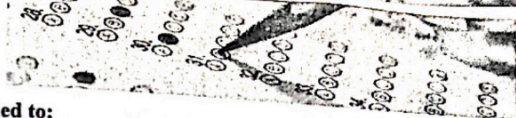


- Q.50** The volume of air taken inside the lungs and expelled during exercise is about:
a. 0.5 liter
b. 1.5 liter
c. 3.5 liter
d. 5.0 liter
- Q.51** All of the following are associated with emphysema except:
a. Breakdown of alveoli
b. Improper oxygenation of blood
c. Increased airway resistance
d. Decreased physiological dead air space
- Q.52** How many molecules of CO_2 can be transport by one molecule of hemoglobin?
a. 1
b. 2
c. 3
d. 4
- Q.53** There are maximum chances of dissociation of oxyhaemoglobin at partial pressure of:
a. 115 mmHg
b. 100 mmHg
c. 60 mmHg
d. 40 mmHg
- Q.54** Which of the following is true about solubility of oxygen and carbon dioxide in blood?
a. $\text{O}_2 > \text{CO}_2$
b. $\text{O}_2 < \text{CO}_2$
c. $\text{O}_2 = \text{CO}_2$
d. Both are insoluble
- Q.55** Which of the following is true during diastole?
a. Oxygenated blood is filled in heart
b. Deoxygenated blood enters the heart
c. Atria and ventricles receive blood
d. Only atria receive blood
- Q.56** Most abundant of the white blood cells:
a. Neutrophils
b. Eosinophils
c. Basophils
d. Lymphocytes
- Q.57** Along the pathway, the lymph vessels have, at certain points, masses of connective tissue where lymphocytes are present. These are known as:
a. Lymphoid masses
b. Lymphoid organs
c. Lymph nodes
d. Lymph lacteals
- Q.58** Valves are found in all of the following except:
a. Heart
b. Arteries
c. Veins
d. Lymph vessels
- Q.59** Rate of blood flow in capillaries is about:
a. 400 mm/sec
b. 300 mm/sec
c. 10 mm/sec
d. 1 mm/sec
- Q.60** If a blood clot is dislodged and carried to some other location in the circulatory system, will be called as:
a. Thrombus
b. Embolus
c. Atheroma
d. Hematoma
- Q.61** Principal excretory product in humans is:
a. Ammonia
b. Urea
c. Uric acid
d. Creatinine
- Q.62** The peri-tubular capillaries intermingle with:
a. Collecting tubules
b. Proximal tubule only
c. Distal tubule only
d. Proximal and distal tubule
- Q.63** The interstitial fluid of the kidney is gradually concentrated from:
a. Cortex to medulla
b. Medulla to cortex
c. Pelvis to hilus
d. Pelvis to bladder
- Q.64** Which one is not included in urinary system?
a. Kidney
b. Liver
c. Bladder
d. Urethra
- Q.65** The more concentrated external environment is called as:
a. Hypotonic environment
b. Hypertonic environment
c. Isotonic environment
d. Dry environment

- Q.66** Most of the reabsorption of water occurs at:
a. Bowman's capsule
b. Proximal convoluted tubule
c. Loop of Henle
d. Distal convoluted tubule
- Q.67** Which of the following is associated with opening of Na-gates and influx of Na-ions?
a. Polarization of neuron
b. Repolarization of neuron
c. Depolarization of neuron
d. Hyperpolarization of neuron
- Q.68** It is a neurotransmitter that transfers impulse from neuron to sarcolemma:
a. Acetylcholine
b. Adrenalin
c. Serotonin
d. Dopamine
- Q.69** A "threshold" stimulus is one which can:
a. Maintain resting membrane potential
b. Reverse the charge of resting membrane
c. Initiate resting membrane potential
d. Stop action potential
- Q.70** Influx of sodium and efflux of potassium cause _____ and _____, respectively.
a. Polarization, repolarization
b. Polarization, depolarization
c. Depolarization, polarization
d. Depolarization, repolarization
- Q.71** Through synapse, nerve impulse follows which pathway?
a. Soma to axon
b. Axon to soma
c. Dendrites to axon
d. Axon to dendrites
- Q.72** Ventral root ganglia contain cell bodies of:
a. Sensory neurons
b. Motor neurons
c. Associative neurons
d. Both sensory & motor neurons
- Q.73** Testosterone is male sex hormone produced and secreted by:
a. Germinal cells
b. Interstitial cells
c. Sertoli cells
d. Nurse cells
- Q.74** Second meiotic division in the oocyte proceeds as far as:
a. Prophase
b. Metaphase
c. Anaphase
d. Telophase
- Q.75** The term menopause means:
a. Start of menstruation
b. Start of ovulation
c. Stop of ova production
d. Degeneration of ovaries
- Q.76** Which two hormones act on endometrium of uterus?
a. FSH and LH
b. Estrogen and progesterone
c. Estrogen and oxytocin
d. Progesterone and oxytocin
- Q.77** Uterus gains maximum thickness during:
a. Follicular stage
b. Proliferative stage
c. Secretory stage
d. Menstrual stage
- Q.78** A sarcomere is the region of a myofibril between two successive:
a. A-bands
b. I-bands
c. M-lines
d. Z-lines
- Q.79** According to "all or none response", all of the following participate in contraction:
a. Muscle bundles
b. Muscle fibers
c. Muscle fasciculi
d. Myofibrils
- Q.80** Irregular striations and involuntary control is related to:
a. Smooth muscle cells
b. Skeletal muscle cells
c. Cardiac muscle cells
d. Fibroelastic cartilage cells
- Q.81** Which triggers the release of calcium ions from sarcoplasmic reticulum?
a. Formation of actin-myosin cross bridges
b. Sarcomere contraction
c. An action potential
d. An increase in calcium ion concentration
- Q.82** What is required for striated muscles to contract?
a. Release of calcium ions from troponin
b. Binding of calcium ions to troponin
c. Binding of calcium ions to tropomyosin
d. Release of calcium ions from tropomyosin
- Q.83** Which one of the following gland produces steroidal hormones?
a. Pancreas
b. Hypothalamus
c. Gut
d. Testes



- Q.84** Normal serum level of hormones are controlled by:
a. Target site
b. Effector's response
c. Feedback mechanism
d. Precursor activation
- Q.85** Oxytocin and vasopressin are released into the blood supply of:
a. Thalamus
b. Hypothalamus
c. Anterior pituitary
d. Posterior pituitary
- Q.86** Hormone/s that increase/s blood glucose level:
a. Insulin only
b. Glucagon only
c. Insulin and adrenalin
d. Glucagon and cortisol
- Q.87** Which of the following is the glucocorticoid?
a. Adrenaline
b. Insulin
c. Cortisol
d. Aldosterone
- Q.88** Progesterone is secreted from ovary under the stimulus of:
a. FSH
b. LH
c. Estrogen
d. Prolactin
- Q.89** Antiserum is a serum containing:
a. Antibodies
b. Lymphocytes
c. Antigen
d. Fibrinogen
- Q.90** An antibody molecule is generally:
a. V-shaped
b. Y-shaped
c. I-shaped
d. A-shaped
- Q.91** It is part of innate immunity:
a. Skin
b. B-lymphocytes
c. T-lymphocytes
d. Antibodies
- Q.92** It is the most abundant and most important photosynthetic pigment:
a. Chlorophyll 'a'
b. Chlorophyll 'b'
c. Carotenes
d. Xanthophylls
- Q.93** Wavelength that is absorbed maximally by chlorophyll 'b':
a. Violet
b. Blue
c. Orange
d. Red
- Q.94** During photosynthesis _____ is reduced into _____, respectively.
a. Water, glucose
b. Water, oxygen
c. Carbon dioxide, glucose
d. Carbon dioxide, oxygen
- Q.95** It is an iron containing protein of related with PS I:
a. Plastoquinone
b. Cytochrome
c. Plastocyanine
d. Ferredoxin
- Q.96** During chemiosmosis, energy for pumping is provided by:
a. ATP of mitochondria
b. ATP of chloroplast
c. Electron transport chain
d. Membranes of organelles
- Q.97** To produce a triose, how many molecules of CO_2 acceptor should be present at the start of Calvin cycle?
a. One
b. Two
c. Three
d. Four
- Q.98** Which process of energy production occurs in all living cells?
a. Breathing
b. Aerobic respiration
c. Glycolysis
d. Krebs cycle
- Q.99** In respiratory chain, one molecule of NADH gives rise to:
a. 1 ATP
b. 2 ATP
c. 3 ATP
d. 4 ATP
- Q.100** EcoRI, a commonly used restriction enzyme, cuts:
a. Single stranded RNA
b. Double stranded RNA
c. Single stranded DNA
d. Double stranded DNA
- Q.101** For denaturation of DNA in PCR, it is heated for:
a. 1 minute
b. 2 minutes
c. 1.5 minute
d. 2.5 minute



- Q.102 DNA fingerprinting is applied to:**
a. Gene of a trait
b. Piece of DNA
c. Genome of individual
d. Gene pool of population
- Q.103 It is also called as dideoxy method:**
a. Recombinant method
b. Sanger method
c. Maxam-Gilbert method
d. Vortex method
- Q.104 In Vortex Method, eggs are placed in an agitator with DNA and:**
a. Calcium chloride
b. Cesium chloride
c. Calcium carbide
d. Silicon carbide
- Q.105 Plasmids play role in all of the following except:**
a. Genetic recombination
b. Antibiotic resistance
c. Fertility
d. Metabolism
- Q.106 Phagocytes depend upon _____ for killing of microbes.**
a. Peroxisomes
b. Lysosomes
c. Glyoxisomes
d. Tonoplast
- Q.107 Type of immunity having long lasting effects is:**
a. Active immunity
b. Passive immunity
c. Autoimmunity
d. Cell mediated immunity
- Q.108 Which of the following is not an example of disuse of organs?**
a. Snake's feet
b. Muscle atrophy
c. Shedding of teeth
d. Movement of ear
- Q.109 The main point of Darwin's theory is:**
a. Variation
b. Enormous fertility
c. Mutation
d. Natural selection
- Q.110 Pick the respiratory protein found in all aerobic organisms:**
a. Cytochrome 'a'
b. Cytochrome 'b'
c. Cytochrome 'c'
d. Cytochrome 'f'
- Q.111 Mostly fossils are found in:**
a. Glaciers
b. Mud pools
c. Stony rocks
d. Sedimentary rocks
- Q.112 The most direct evidence of organic evolution is:**
a. Fossils
b. Morphology
c. Embryos
d. Vestigial organs
- Q.113 A person having blood group AB is heterozygous for Rh factor. What kind of dominance relation is present between his alleles for Rh factor?**
a. Complete dominance
b. Co dominance
c. Incomplete dominance
d. Over dominance
- Q.114 Binding of mRNA with small ribosomal subunit is guided by?**
a. Aminoacyl tRNA
b. Start codon
c. Leader sequence
d. Sigma factor
- Q.115 What time will DNA polymerase III take to jump towards replication fork after constructing an Okazaki fragment in a prokaryotic cell?**
a. 1-2 seconds
b. 5-10 seconds
c. 10-15 seconds
d. 15-20 second
- Q.116 A test cross is conducted to determine:**
a. Genotype of a dominant phenotype
b. Genotype of a recessive phenotype
c. Phenotype of a dominant genotype
d. Phenotype of a recessive genotype
- Q.117 A region of repetitive nucleotide sequences at each end of a chromosome is called:**
a. Groove
b. Telomere
c. Single constriction
d. Centromere
- Q.118 If one were to unzip the molecule, one would need only to assemble the appropriate complementary nucleotides on the exposed single strand to form two daughter complexes with the same sequence" is the definition of:**
a. Semi-conservative model
b. Conservative model
c. Dispersive model
d. Destruction model



- Q.119 An organism with two identical alleles for a given trait is:
a. Homozygous
b. Heterozygous
c. Dominant
d. Hermaphrodite
- Q.120 _____ is the physiological effect of an allele over its partner allele on the same gene locus.
a. Dominance
b. Epistasis
c. Pleiotropy
d. Polymeric gene interaction

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MCQ'S RESPONSE FORM

ID	A	B	C	D	ID	A	B	C	D	ID	A	B	C	D	ID	A	B	C	D
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Roll No.									
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9	9	9	9	9	9	9	9	9	9

NAME: _____

FATHER'S NAME: _____

ROLL NO. (IN WORDS): _____

CANDIDATE'S SIGNATURE: _____

DEPUTY SUPDT. SIGN: _____

INSTRUCTIONS

- USE BLUE BALL POINT PEN ONLY.
- PLEASE FILL IN THE ROLL NO. CORRECTLY.
- IT IS IMPORTANT THAT THE CIRCLE IS FILLED COMPLETELY AND CORRECTLY AS SHOWN IN THE EXAMPLE BELOW, OTHERWISE THE UNIVERSITY CAN NOT BE HELD RESPONSIBLE.

CORRECT EXAMPLE: ○ ● ○ ○ ✓

INCORRECT EXAMPLES: ○ ● ● ○ X
○ ○ ● ○ X
○ ○ ○ ● X

- DO NOT ERASE A RESPONSE ONCE THE CIRCLE HAS BEEN FILLED IN.
- INCOMPLETELY FILLED CIRCLES WILL NOT BE READ.
- MULTIPLE RESPONSE TO ONE QUESTION IS NOT ALLOWED.
- TEARING OFF THE RESPONSE FORM, FOLDING, STAPLING, CUTTING & PUTTING UNNECESSARY SIGNS AND IDENTIFICATION ON THE FORM WILL LEAD TO AUTOMATIC DISQUALIFICATION OF THE CANDIDATE.

THE UNIVERSITY SHALL NOT BE HELD RESPONSIBLE IF THE ABOVE INSTRUCTIONS ARE NOT FOLLOWED.